

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application No.: 10/806,307
Filing Date: March 22, 2004
Applicant: Gregory A. Stobbs, et al.
Group Art Unit: 2162
Examiner: Jean M. Corrielus
Title: COMPUTER-IMPLEMENTED PATENT PORTFOLIO
ANALYSIS METHOD AND APPARATUS
Attorney Docket: 9305-000002/DVA

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REPLY BRIEF ON BEHALF OF APPELLANTS

This is a reply to the Examiner's answer dated July 9, 2008 regarding the pending appeal of the present application. .

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II. STATUS OF CLAIMS

Claims 1-10 have been cancelled.

Claims 11-20 are presently pending in this application. Claims 11-20 stand rejected as follows:

Claims 11-12 are rejected under 35 U.S.C. §103(a) as being unpatentable over US 6,038,561 to Snyder et al, and US 6,233,575 to Agrawal.

Claims 13-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over US 6,038,561 to Snyder et al, in view of US 6,233,575 to Agrawal and further in view of Andrew “Text classification by bootstrapping with keywords EM and Shrinkage.” (Note that applicants are referring to the “Andrew” reference by the same name as used by the Examiner in the Office Action. The authors of the cited reference are: Andrew McCallum and Kamal Nigam; thus applicants believe the Examiner has chosen to identify this reference by the *first name* of the first-named author.)

Identity of appealed claims:

Claims 13-20 are being appealed.

III. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether Applicants' claims 13-20 have been improperly rejected over Snyder et al (6,038,561), in view of Agrawal (6,233,575) and further in view of Andrews "Text classification by bootstrapping with keywords EM and Shrinkage" where:

(as to claims 13 – 20) contrary to the Examiner's assertion, Andrews reference does not teach defining an eigenspace representing a training population of training claims...representing at least a portion of each training claim in said eigenspace... projecting the claim text information to be analyzed into said eigenspace and ... associating with said projected claim text the predefined category of the training claim to which said projected claim text is closest within the eigenspace.

GROUPING OF CLAIMS

In this Appeal Brief, Applicants have grouped the claims into one group in order to better organize the arguments:

Group 1 – Claims 13-20 of which claim 13 is representative

Applicants submit that claims 13-20 each represent patentably distinct inventions. However, recognizing the Board's need for judicial economy, Applicants submit that the claims on appeal may be grouped together into single group as follows for purposes of the 37 C.F.R. 1.192(c)(7) "Grouping of Claims" requirement:

Group I – Claims containing recitation of:

defining an eigenspace representing a training population of training claims...representing at least a portion of each training claim in said eigenspace... projecting the claim text information to be analyzed into said eigenspace and ... associating with said projected claim text the predefined category of the training claim to which said projected claim text is closest within the eigenspace.

Claims in this group include independent claims 13-20

IV. ARGUMENTS

The Examiner has cited no art that teaches or suggests applicants' eigenspace technique utilizing claim text and now challenges the applicants to "show how such rationale by the Examiner does not disclose the claimed invention." Applicants are happy to take up that challenge:

First, the Examiner admits that the Snyder and Agrawal references do not teach analyzing a patent portfolio using an eigenspace technique. The only reference relied upon to support the rejection vis-à-vis applicants' eigenspace technique utilizing claim text is Andrew; and here the Examiner argues only by analogy, since Andrew likewise does not teach applicants' claim text-based eigenspace technique. The Examiner states: "It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system, Snyder and Agrawal (using?) the cited teachings of Andrew."

Indeed, the Examiner has not demonstrated how to modify the teachings of Snyder and Agrawal using the teachings of Andrew. Rather the Examiner proposes to modify the teachings of Snyder, Agrawal and Andrew to produce the applicants' invention. The Applicants submit that the Examiner is using hindsight in postulating this "combination" because none of the references are using applicants' claim text-based eigenspace technique.

Is the applicants' eigenspace technique really the same thing as Andrew's bootstrapping, EM and shrinkage technique? Applicants submit that it certainly is not. The Andrew technique uses the following procedure:

1. Start with (1) a group of unlabeled documents; (2) a class hierarchy and (3) a few keywords per class.
2. Match keywords to the documents in rule-list fashion by stepping through the keywords and placing the document in the category of the first keyword that matches. (Some won't match at all and some may match incorrectly, such that assigning a category may be impossible or wrong). – this results in “approximate” preliminary labels by term matching.
3. Use the preliminary (approximate) labels in a bootstrapping process that learns a naïve Bayes classifier using Expectation-Maximization to add unlabeled data.
4. Use the hierarchical class structure to calculate new word probability estimates for each leaf class by a weighted average of the estimates on the path from the leaf to the root. (Andrew refers to this as a statistical “shrinkage” technique).

In the Andrew method, the keywords are selected in advance and associated with the classes. The first keyword in a document that matches is used to initially represent that document. (The representational keyword is simply selected in rule-list fashion that finds the first matching keyword and uses it, regardless of how many other keywords might match). Expectation-maximization and class hierarchy-based shrinkage techniques are used to correct situations where documents are unlabeled or labeled incorrectly. But even after this statistical correction, the Andrew method is still simply using keywords to determine which class to assign to a document.

In applicants' system the claim text from training claims (not keywords already associated with class categories) is used to define the eigenspace category model and claim text is further used to during the projecting step to analyze to which training claim the projected claim text is closest within the eigenspace.

In using claim text, the applicants' system uses a much richer source of information than mere keywords could express. In this regard, it bears noting that Andrew is not working with patent documents or claim text. The only relied-upon art from the patent document field is Snyder, and Snyder did not appreciate that either trained models or eigenspace techniques based on claim text might be used. There is clearly no evidence from the Andrew reference that the authors would appreciate that claim text (as opposed to keywords) might be used to categorize patent documents.

Patent attorneys, patent examiners, and Judges on the Board of Appeals spend all day studying claim text. Computer scientists and information scientists do not. Thus, applicants submit that persons of skill in the art, having Snyder, Agrawal and Andrew in front of them would not make the connection to employ an eigenspace defined using claim text. Applicants suggest that if you put a patent claim and a list of keywords in front of the computer or information scientist, such scientist will instinctively use the keyword every time. Simply stated, the applicants' invention is not merely an obvious combination of the cited art.

Applicants believe that the claims on appeal set forth this non-obvious difference. With reference to applicants' claim 14, applicants' process involves:

1. retrieving patent information from a database, wherein the patent information is from a plurality of patent documents;
2. analyzing said patent information to generate at least one eigenspace category model; and
3. applying said category model to said patent information to select from said patent information a subset that fits said model and storing said subset in a computer-readable dataset,

4. wherein said patent information includes **claim text information** to be analyzed and wherein said analyzing step includes:
5. defining an eigenspace representing a training population of **training claims each training claim having associated training text**;
6. representing at least a portion of said **training claims** in said eigenspace and **associating a predefined category with each training claim** in said eigenspace; and
7. projecting the **claim text** information to be analyzed into said eigenspace and associating with said **projected claim text** the predefined category of the training claim to which said projected claim text is closest within the eigenspace.

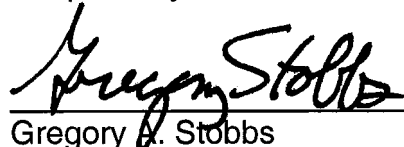
Regarding claims 11 and 12, Applicants do not agree or admit that claims 11-12 are unpatentable over Snyder and Agrawal. Applicants have simply elected to pursue the appeal relative to claims 13-20, as a means of simplifying the issue for the Board to resolve upon appeal.

CONCLUSION

For the foregoing reasons, the appealed claims are patentably distinguishable over the art relied upon by the Examiner. Accordingly, Applicants respectfully request that this Board reverse the final rejection of Claims 13-20.

Dated: Sept 5, 2008

Respectfully submitted,



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